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Interactive comment on "Volatile organic emissions from the distillation and pyrolysis of vegetation" *by* J. P. Greenberg et al.

J. P. Greenberg et al.

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Reviewer 1: we paraphrase reviewer's comment.

1. Is there any difference between air and nitrogen processes revealed in TGA plots (Figure 5)? The apparent divergence in air and nitrogen traces for dM/dT is an artifact of a temperature measurement offset in the nitrogen experiment. When corrected temperatures are used for plotting, the traces coincide much more closely. This figure will be corrected in the revised manuscript.

2. Comparison of emission factors with other published results (sections 4.5 and 4.6): Andreae and Merlet (2001) list integrated emission factors for fires, which include emissions from all phases of combustion. Consequently, a direct comparison is not always

appropriate. If, however, we assume that some VOCs (especially oxygenated VOCs) are only emitted in pyrolysis/distillation phase, a comparison may be appropriate. We will include this comparison in discussion and revised Table 3.

3. VOC and CO emissions at low temperatures: VOC emissions are higher than CO emissions at the low temperatures; the text will be amended.

4. Comparison of woody and leaf tissue emissions for eucalyptus (figures 2 and 4). Text should be amended to say that "the identities and patterns of emissions for most VOCs are similar, but the emission factors for woody tissue appear to be significantly higher."

5. Additional CO and CO2 at higher temperatures from oxidation of emissions, rather than oxidation of plant tissue? Probably a combination of both. See discussion in Yokelson et al., 1996.

6. Awkward language in section 4.6: The sentence will be reworded to indicate that the results of these experiments indicate that VOC emissions from charcoal production may be on the order of CO emissions from that process, much larger than estimated by Yevich and Logan (2003).

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